UNISEC-Global The 52nd Virtual Meeting

January 18, 2025, 22:00-24:00
(Standard Japan time GMT +9)

The following report was prepared by UNISEC-Global Secretariat
January 20, 2025
Japan

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1. Opening Remarks: Proposal on Nano-satellite IoT Constellation Program by International Collaboration

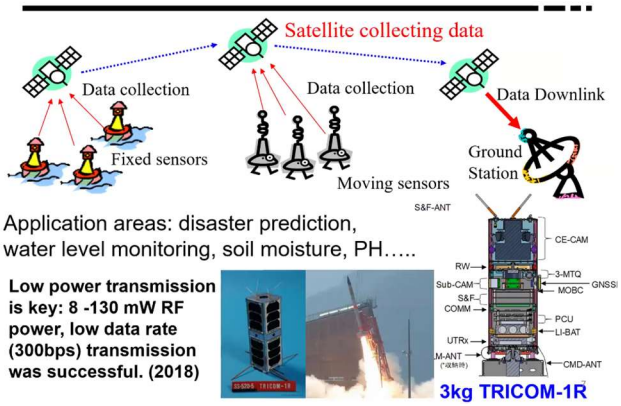
Shinichi Nakasuka, University of Tokyo

Prof. Sinichi Nakasuka was born in Osaka in 1961. After graduating from the Department of Aeronautics and Astronautics at the University of Tokyo in 1983, and receiving a Ph.D. in Aeronautics in 1988, he joined a computer manufacturer and became involved in research around Artificial Intelligence and automated manufacturing. In 1990, he became a lecturer at the University of Tokyo, then subsequently an assistant professor of the Research Center for Advanced Science and Technology, University of Tokyo, and a visiting research fellow in the United States. He has been a professor at the Department of Aeronautics and Astronautics since 2004. His research fields are space engineering and intelligence for space systems.

Pictured: Prof. Nakasuka during his presentation

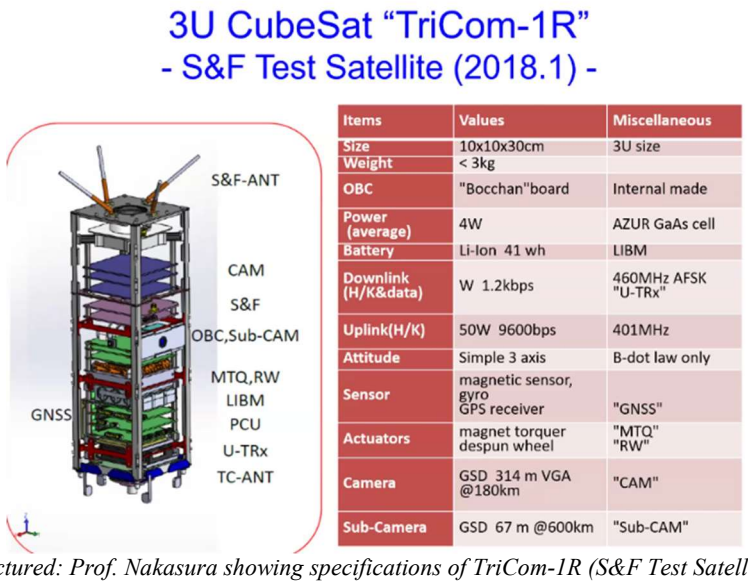
Highlights:

- Was present in the 1st CanSat launch on September 11,1999
- Gave important messages for 2025 and beyond
  - "If you go faster, go alone. If you go further, go together" – UNISEC-Global Key-concept
  - "A journey of a thousand miles begins with a single step"
- To ensure long term impact of UNISEC, some objective/tangible projects are necessary
- **A Joint mission Nano-Sat Constellation as UNISEC-GLOBAL**
  - Jointly design satellite bus (3-6U) and mission payload with online guidance
  - Satellites developed by each country
  - Own fundings
    - International funds can be searched if difficult
  - All satellites will have **common mission payload**
    - Aim is to jointly solve global/local problems as a constellation
  - Proposes **store-and-forward mission as a potential common mission**



Pictured: Prof. Nakasura describing the IoT mission

- Such low power transmission requires low data rate
    - Has been successfully tested in 2018
- Merits of IoT as Common Mission
    - Can be devloped in 3U-6U size
    - Does not require advanced satellite-bus
    - Even limited data rate (300-500 bps) can send important ground information
    - Service time is proportional to the number of satellites
        - Better if we can coordinate orbit launch
    - Ground sensors can be invented/improved even after launch
    - Data source can be self-tailored to meet the needs of each country
    - If one country develops good sensor, all participating countries can benefit from it
- **Recommends appealing to government for source of fundings as it benefits the entire nation**
- Presented about 3U CubeSat "TriCom-1R" 'Store & Forward' Test Satellite (2018)
    - 3U size, low power
    - Downlink/Uplink from UHF
    - Used B-dot low for ADCS
    - Simple sensors and actuators
    - Camera was implemented although not needed
    - Transmitted in 2018
    - Stayed in orbit for 8 months
    - Had decicated rocket by JAXA



Items	Values	Miscellaneous
Size	10x10x30cm	3U size
Weight	< 3kg	
OBC	"Bocchan"board	Internal made
Power (average)	4W	AZUR GaAs cell
Battery	Li-Ion 41 wh	LIBM
Downlink (H/K&data)	W 1.2kbps	460MHz AFSK "U-TRx"
Uplink(H/K)	50W 9600bps	401MHz
Attitude	Simple 3 axis	B-dot law only
Sensor	magnetic sensor, gyro GPS receiver	"GNSS"
Actuators	magnet torquer despun wheel	"MTQ" "RW"
Camera	GSD 314 m VGA @180km	"CAM"
Sub-Camera	GSD 67 m @600km	"Sub-CAM"

Pictured: Prof. Nakasura showing specifications of TriCom-1R (S&F Test Satellite)

- Based on the results, collaborated with Rwanda to develop their first satellite, "RWASAT-1"
    - Deployed from ISS in November 2019, orbitted for 2 years
    - Successfully experimented with different Ground Sensors

- One satellite provides 4 * 10 min (SSO case) time to receive data from ground
    - If the satellite fails, there is no backup
    - Thus, constellation is better for data transmittion
- 1st step to developing IoT is to design and define the parameters of target IoT system, which includes
    - Bitrate of transmittion (bps)
    - Total amount of data per one transmission (byte)
    - Required transmission power and input power to transmitter (W)
    - Interval of data reception (hours)
    - Allowal latency from data reception by satellites to downlink at one of the GS (hours)
    - Error rate in data transmission (%)
    - Decoding capability to correctly decode diverse packets coming to satellite at once (MHz)
- Use cases include static and moving sensors
- Can address different global problems including natural calamities monitoring
- Mission study is essential before mission design
    - Requirements, sensor type, data type, sensors deployement density and intended outcome
- To participate
    - Show your interest by sending e-mail to UNIGLO secretatiat at iot@unisec-global.org
    - Download/receive the file that explains the IoT program
    - Study possibilities of IoT mission in your country (collaboration is suggested)
    - Submit excel file to describe your IoT mission idea to secretatiat (as many as possible)

Excel file to be submitted (one example is shown)

Section 1: Mission overview				
What kind of sensor data should be sent to satellites?	**What kind of sensor is to be used for your IoT mission?**	**Who will use the data?**	**For what objectives?**	**Contributions to the society**
Flood Detection and Monitoring	Water level sensor	Local and central governments	To mitigate disaster and save lives	We suffered from flood many times, which will be mitigated by finding the flood quickly in wide areas.

Section 2: Requirements for the IoT system				
1) How frequently should the data be sent to satellites?	**2) How much size of the date is to be sent to the satellite? (byte)**	**3) How much delay is allowed?**	**4) How many sensors will be put in 10km x 10km?**	**Priority**
Once per 2 hours	One sensor requires 2 byte data. Several sensors data will be sent to a key comm station from which collected data will be sent to satellites. Total data amount will be 2 bytes x 50 sensors = 100 bytes.	The data had better be downlinked to ground in 1 hour after reception.	Along the dangerous river area, with 2km separation	5 (highest)

Pictured: Prof. Nakasura describing the format of submission of excel file

Q/Ans:

Q: **Milite Ghebrenigus: Is it defined as phase 0 or A?**

A: ***Prof. Nakasura:*** *Phase 0.*

Q: ***Participant : What is the financial obligation if I want to be involved?***

A: ***Prof. Nakasura:*** *As for the financial obligation, I'll not say that we'll give you such kind of obligation. So, first I would like to get IoT mission examples, then I'd like to seek for financial support altogether. So, for first phase, you don't need to worry about financial status. But please give me IoT mission status, so this is the current state. But of course, it is better if you ask your government to support these kinds of activities, but it is not mandatory.*

Q: **Participant: There are many public and private IoT constellations aiming for similar activities.**

We need to comment on how we support this activity. Of course, we are doing community or academic and not particularly commercial. Do we need to say something on that?

A: ***Prof. Nakasura:*** *There are many kinds of such IoT business a satellite constellation. But to utilize such kind of IoT, we need to pay something. And we don't have the flexibility to change the system. So, if we have our own IoT constellation system, then in the future when we are researching on our missions, we can modify our inner system. So, I think we'd like to have such kind of design freedom for our IoT system. So, this is the importance of having our own IoT concentration system. This is my current idea.*

Q: **Maria Alvarado: Is there age restriction for applying to this program?**

A: ***Prof. Nakasura:*** *There is no age restriction. The important thing is, please think of IoT missions. Because developing IoT mission is easier than developing the satellite. So, I think I'd like to ask everyone to think what kind of IoT mission would exist.*

Q: **Helen Haile: Can I do exchange at your lab working on this mission for one or two months? I want to develop a sensor?**

A: ***Prof. Nakasura:*** *That may be possible. Yeah, there are some international exchange programs in our university. So please apply to that.*

Q: **Chayapat Songpipat: When will be the last date for the application of our idea?**

A: ***Prof. Nakasura:*** *The deadline of proposing IoT missions is February 25th.*

Q: **Fama Jallow: Are people outside of academia like private startups allowed to contribute?**

A: ***Prof. Nakasura:*** *Yes. I think so. But what we want to do is not a commercial program. It's a kind of an academic and international collaborative project. We don't want to make it commercial program. But sometimes we need to get sensors or other component from commercial companies. So, in those areas, maybe we need to collaborate with commercial companies and so on. Key point is that we don't want to make it commercial program.*

Q: **Toncho: Will every ground station be able to access every orbiting satellite? And does every country need to contribute one satellite?**

A: ***Prof. Nakasura:*** *This is what we should discuss in the future. Not now. Based on the IoT missions and participants, we would like to discuss this in the next step.*

Q: **Sayed Lasheen: Can small CubeSats use the constellation of the IOT satellites to give them telemetry data in cases of missing the ground station communication session ?**

A: ***Prof. Nakasura:*** *We would like to do it in the future. Initially it is very difficult to make satellite to satellite communication. In the future, if we improve our technology, we would like to challenge the satellite to satellite communication. Then maybe uplink timing would be much better. And the time delay would be much reduced. So, we would like to consider it in the future.*

Q: **Mayamiko Msonkho: On the exchange at your Lab, where can I get the link? My masters is**

also in the same line, I am developing a sensor network.

A: ***Prof. Nakasura:*** *Okay, so please go to University of Tokyo faculty of engineering website. There is some information about the research. The international research student program or international internship program. So, you can find such kind of information from the website.*

2. Local Chapter Activity Report (1)

Chayapat Songpipat, UNISEC-Thailand

Chayapat Songpipat is currently the student president of UNISEC-Thailand. He is a 21-year-old student at King Mongkut's University of Technology North Bangkok (KMUTNB) in aerospace engineering bachelor's degree. His interest in the space field arose since 2019 and has continued his engagement by participating in different programs. He has participated in MIC8 as one of the finalist's team "SALVS-01" and also participated in one of CANSAT Leader Training Program (CLTP) class of 2022. His research interest are structure, power subsystem and project management.

Pictured: Mr. Songpipat during his presentation

Highlights:

- UNISEC Thailand established in 2020, registered as an association
- Currently 6 member universities 1 one partner
- Participated in CLTP 2022; MIC 2022(2nd place), 2023(finalist); Global meetings
- Organized MIC 7 Seminars, Lunar Hackathon
- Co-organized and supported various CanSat projects, and space projects
- Hosts UNISEC-Thailand online meeting in the night of first Saturday every month
- Co-organized and supported Thailand CanSat/rocket competition 2024 for high school
- Are making changes to the logo and passing it officially from department of law association
- Participated in mission ShaktiSAT, a female-led global lunar satellite mission project
- Supported 9th Satit academic day can-sat competition as special guest referee
- CUHAR, a member university, developed a starting rocket- CURSR III
    - Launched it to over 30,000 feet
- Designed a Mars Rover Simulator to inspire students
- Thailand space week
    - School Satellite Competition
    - Space Journey exhibition in Bangkok
- AC CanSat winter camp 2024 with Assumption College for high school students
    - Are also launching their high-altitude balloons
- Won the 5th KIBO Programming Challenge
- Participated in ASIAN TRY ZERO G
    - Run Space Innovation Challenge and SpacePort America Cup
- Plan for 2025 and beyond
    - Obtain legal status from the Department of local administration
    - Co-organize and support Thailand CanSat rocket competition
    - Research and develop sugar rocket curriculum
    - Continue presence in UNISEC activities

Pictured: Mr. Songpipat explaining the activities of UNISEC Thailand

Q/Ans:

Q: **Maximilien Berthet: What were the activities that you were most involved in, in UNISEC Thailand?**

A: **Chayapat Songpipat***: My main activity is organizing everything together. I think the main thing for last year is going through the legal process, which is not an easy thing.*

Q: **Maximilien Berthet: It seems like you have many experiences coordinating different activities and basically starting UNISEC Thailand. What advice do you have for someone who is considering a new local chapter in a different country.**

A: **Chayapat Songpipat***: My personal experience is, it's really hard to make students feel fun. Sometimes it's too serious, and other times it's too fun so it's difficult to have any activity at all. So, it's really difficult to find the balance.*

Q: **Thitut Uthalye: If any other establishing university clubs in Thailand would like to join UNISEC-Thailand, what would be the benefit and obligation for the club?**

A: **Chayapat Songpipat***: There are a lot of benefits. We have lots of work than before in our hands. We can come together in making something happen. We don't have benefit in terms of money.*

Q: **Participant: I wanted to find out about the sugar rocket curriculum. If you could share that, I think it would be interesting.**

A: **Chayapat Songpipat***: Currently it's not finished yet. It is still developing. We had shared some of our experiences. You can contact us in our email, and we could help you.*

Q: **Maria Alvarado: Which countries have participated in the competitions? Is it Thailand only, or international participation was also there?**

A: **Chayapat Songpipat***: Some of the competitions like SPACEPORT America Cup were international competitions. I think you guys can participate in it. Some of our activities are limited to our country only but our students could learn from international participation and what other people in the world do.*

Q: **Ying Liao: May I ask what the source of funding of UNISEC Thailand is?**

A: **Chayapat Songpipat*:*** *The reason in making UNISEC Thailand an association is so that it's easier to get money. Because in Thai Law, if you are an association or company then you can reduce the tax. You have to look into your country laws, and what benefits it has for companies. Our work is not easy to understand and sometimes it's really messy. So, I think you can search how you can get the benefits.*

3. Local Chapter Activity Report (2)

Essien Ewang, UNISEC-Nigeria

Dr. Essien Ewang received his Ph.D. in Space Systems Engineering from the Department of Engineering, Kyushu Institute of Technology, Japan, in 2017. He studied and obtained an M.Sc. in Electronic and Electrical Engineering at Obafemi Awolowo University, Ile-Ife, Nigeria, in 2014. He also studied and obtained a B.Eng. in Electrical and Electronic Engineering, an M.Sc. in Public Order and Information Management (POIM), and a B.Sc. in Mathematics at the University of Uyo, Uyo, Nigeria, in 2009, 2005, and 2000, respectively. Presently, he is serving as an assistant director of space systems engineering in CSTD under the auspices of the National Space Research and Development Agency (NASRDA), Nigeria. He is the head of Industry and Academic Linkage, among other positions held. In addition, he is an adjunct senior lecturer in the department of space systems engineering, Institute of Space Science and Engineering, NASRDA, an affiliate of the African University of Science and Technology, Abuja, Nigeria. He also serves as an adjunct senior lecturer at the University of Abuja, Nigeria, among others. His research interests include small satellite development, space environment interactions, and innovations.

Dr. Ewang

<u>Highlights:</u>

- Established in 2012
- Participated in CLTP 2011 and 2012
- Participated in MIC in 2024
- Attended UNISEC-Global Meeting for some years

- Organized MIC Seminars and workshops intermediately
- Collaboration with Nigerian Society of Engineers and other organizations and agencies
- Previously, they have conducted CanSat Training Program/ Competition and Practical Space Projects
- 10 Member Universities with 45 students and 10 professor members
- Last Year, Nigeria celebrated 25 years in space
- Collaboration with NASRDA to:
    - Provide hands-on activities for Defense Space Administration (DSA)
    - Development of AIT Clean Room
- Attended a day HEPTA-Sat Training Program on November 30, 2024 in Stellenbosch University
- Aim was to observe the main objective of UNISEC activities and implementing the activities
- Currently, UNISEC-Nigeria has been conducting activities in regional base as Nigeria is very wide
- In the near future, UNISEC-Nigeria plans to:
    - Complete the development of AIT Clean Room Project
    - Collaborate, expand and scale up local chapter programs
    - Conduct and host HEPTA-Sat Training

Q/Ans:

Q: **Maximilien Berthet: You mentioned capacity building. Do you focus mostly on Nigeria or do you also provide capacity to neighboring countries?**

A: Dr. Essien Ewang: *Yes, for now, we are mainly in Nigeria but in due course, we would like to see how we try to expand the frontier to other parts of the region.*

Q: Derrick Tebusweke: Do you have a west African regional chapter?

A: ***Maximilien Berthet:*** *So, asking about regional chapter, I think in the Southern African Region, there is a regional chapter between South Africa, Namibia and Zimbabwe, if I am not mistaken. Is there a West African Chapter as well?*

A: ***Dr. Essien Ewang:*** *So, this region is West Africa itself.*

Q: Maximilien Berthet: So, at the moment, is the UNISEC-Nigeria by itself or does it exist alongside other chapters?

A: ***Dr. Essien Ewang:*** *Except Nigeria for now.*

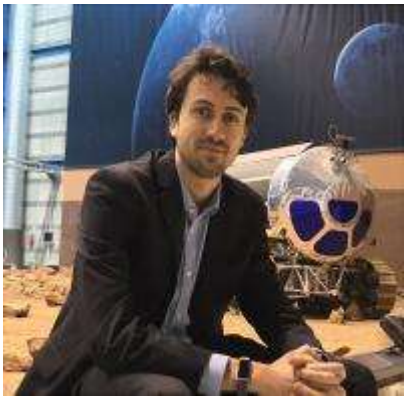
Q: Maria Alvarado: Have you developed any projects that support your country to focus on agriculture or search for water using space applications?

A: ***Dr. Essien Ewang:*** *There are many projects that people have developed. Remote sensing and GIS area experts have done a lot of research in that area and we have many results even from our satellite that is in space. So, we also have some images that we have recorded that we have presented in programs. So, we have done that and we are still doing more that is yet to come.*

4. Local Chapter Activity Report (3)

Paolo Marzioli, UNISEC-Italy

Dr. Paolo Marzioli received his PhD in Aeronautical and Space Engineering at University of Sapienza Rome in 2021, with a thesis based on nano-satellite navigation systems. He belongs to the S5Lab Research Group, where he participated in the development of four nano-satellites and three stratospheric payloads, as of 2022. He coordinated several student projects in space systems development for different international programs. He is an Assistant Professor at Aerospace Systems at the Department of Mechanical and Aerospace Engineering (DIMA) at the Sapienza University of Rome, where he teaches "Spacecraft Design" and "Aircraft Systems" with shared credit. His research topics are related to small space systems development, navigation and tracking systems for novel aerospace mission profiles and concepts, Space Traffic Management, and space debris identification and tracking. Until he was a doctoral student, he was a student representative for UNISEC-Italy.



Dr. Marzioli

Highlights:

- **Could not attend the virtual meeting, thus, pre-recorded video presentation was made**
- UNISEC-Italy's local chapter was established in 2014 by 4 universities
- Participated in all UNISEC-Global Meetings
- Organized the UNISEC-Global Meeting and Pre-MIC in 2019
- Participated in MIC in 2015, 2016, 2017, 2018, 2019 and 2023
- Conduct hands-on university CubeSats projects
- Have also initiated:
    - GUSDON (Global University Space Debris Observation Network)
    - INCAVE (Cave Experiments)
- In 2024, UNISEC-Italy:
    - Launched RETINA; a stratospheric experiment
    - VIPER, a new mission got selected for suborbital rocket experimentation
    - Conducted a capacity building course in Kenya on CubeSat Prototypes
    - UNISEC-Global supported SMILE-IoT Project
- **RETINA:**
    - An experiment proposed by 14 Italian Students
        - Launched on 4 October, 2024 from Esrange Space Centre in Kiruna
        - Launched through REXUS/BEXUS International Program
            - A competition by SNSA, German Aerospace Center and ESA
            - Selects university teams to provide them launch opportunity
        - Carried 4 different experiments which were successful

    - Supported by companies and backed up by Italian Space Agency
    - Data are being analyzed
    - Results were encouraging hopefully will be presented in the next UNISEC-Global meeting
- **VIPER:**
    - A new experiment that has been selected for a suborbital rocket flight on the REXUS
    - Will fly in March 2026
    - Experiment was proposed by a team of 10 students
    - Next step: a training week and PDR in February in Germany
- **Capacity Building in Kenya:**
    - A broad capacity building initiative organized by ASI: CubeSat Training Course at Luigi
    - 2 members of UNISEC-Italy and 2 Australian experts participated as Trainers
    - Holistic training on
        - Theory, mission design
        - Proposal writing
        - Systems Engineering and prototype implementation
    - Total of 30 university students from 6 universities participated
    - An assembly challenge was conducted among 6 teams – won by SIMBACube Team
- **SMILE-IoT**
    - A proposal for call for internationalization
    - Proposed by Rome Technopole and Sapienza University of Rome
    - An initiative supported by UNISEC-Global through a LOI
    - Goal is to create a network of experts worldwide for international cooperation
    - IoT for Space Applications is preparatory for UNISEC Global' s IoT Constellation Mission
    - Funded under the Next GenerationEU Program
    - The project will take place for the whole 2025 (until February 2026)

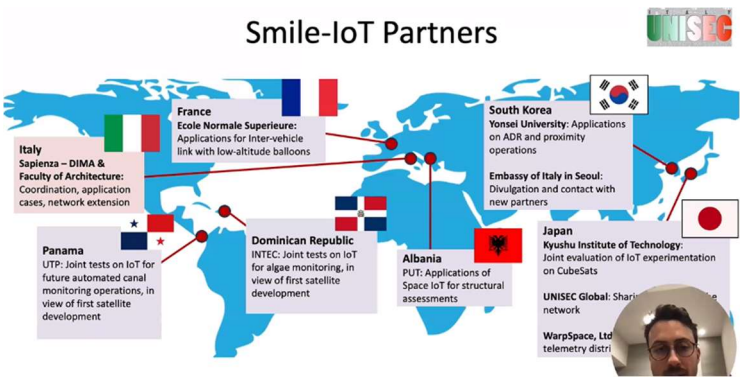


Fig: Dr. Paolo Marzioli presenting about the Smile-IoT Partners from across the world

5. Local Chapter Activity Report (4)

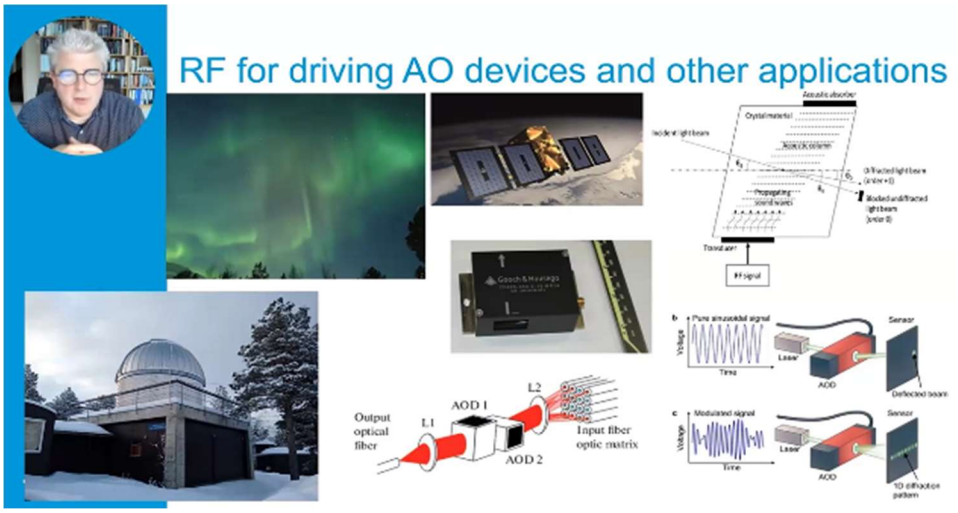
Jurgen Vanhamel, UNISEC-Belgium

Dr. Ir. Jurgen Vanhamel is working as an assistant professor at the Space Systems Engineering section of the Space Department at Delft University of Technology (TU Delft), the Netherlands. Additionally, he is linked to the Electronic Circuits and Systems group at KU Leuven (Belgium). Jurgen has a BSc in mathematics, physics and economics. Furthermore, he obtained a MSc in electrical engineering and a PhD in engineering technology. He also owns a degree in avionics and spacionics design engineering. He teaches courses such as telecommunication, space engineering, remote sensing and space electronics. He guides master thesis students and PhD candidates. Additionally, he is a coach at KU Leuven for the Aether-project in which students design a dedicated re-entry CubeSat, able to return samples from the ISS and other platforms.

Dr. Vanhamel

Highlights:

- **Could not attend the meeting, thus a prerecorded video presentation was made**
- Has experiences of working on electronics, avionics, antenna design, radar, and CubeSat missions
- Has worked on the development
    - SLP (Sweeping Langmuir Probe)
    - NO_2 Camera
    - ASPA
- His core lies in using RF in Acoustic optical (AO) devices
- Can be used for remote sensing from ground/space
- The AO device consists of a crystal material
    - diffracts the incident beam light into two
- The optical wavelengths can be selected by applying RF Signal to a transducer
- A generator and an amplifier are required to drive the system
- The entire system gets too bulky
    - miniaturization is important
- Focus is a flexible space-qualified design that has a miniaturized volume and mass
- Research also includes
    - materials investigation
    - adapting to the impedance matching network
- Earlier designed an NO_2 instrument at ESA
    - currently working to miniaturize the system
- The instrument was tested at Aetna Volcano
    - To check if NO_2 comes out of the volcano
- The slant column density of NO_2 at horizon of Brussel shows a one-to-one translation
    - Translation of the visibility and density determining the concentration of NO_2
- **The OSPA instrument was designed to detect the polarization of aura lights**
- The Solar Spectral Irradiance Instrument design and SO_2 instrument can do different kind of things
- **The Aether Project – designing a re-entry CubeSat – is one of the projects at TU-Delft**
- The plan is to implement a fiber rack grating structure to monitor:
    - Stress, strain and temperature
    - **Specifically of heat shield during re-entry**
- RF signals are also used to monitor space weather through space infrastructure
- Ground-based infrastructures can also be used to monitor space weather
- Research deals with the atmospheric behavior and the variations of the ionosphere
- **Building RABSII** (Radio Amateur Beacons aboard a nano-satellite for the investigation of Ionosphere)
    - The instrument is expected to fly along Delft's newly developed satellite
    - RABSII allows the study of Sporadic E
    - Currently involved RABSII R&D
- The challenge has been to analyze data and signal reception
- Concluding, such AO devices can be used in a wide range of applications



Pictured: Dr. Ir. Jurgen Vanhamel presenting about using RF to drive AO

6. Announcement and Acknowledgment

Haruka Yasuda, UNISEC-Global

Pictured: Yasuda-San announcing the latest updates from UNISEC-Global

Highlights:

- **Nano-satellite IoT Constellation Program**
  - A new program launched by UNISEC-Global
  - Jointly design satellite bus (3-6U) with online guidance
  - Each satellite will be developed by each country with its own funding
  - If difficult, we will jointly search for international funds
  - All the satellites have the same mission payload to contribute to solving global/local problems
  - Use constellation to achieve solutions
  - Each country can have one specific mission payload for its own interest
  - Interested ones can submit the form here:
    - https://forms.gle/WcdvQ9GiQV9rxssj6
  - Deadline: February 25, 2025
  - Contact: iot@unisec-global.org

- **UNISEC-Global events in South Africa: Photo Reports**
  - UNISEC-Global related events on November 25 to 30, 2024

- Successfully conducted in Stellenboasch, South Africa.
- Photo reports of the following has been published:
- 13th Nano Satellite Symposium
- 10th UNISEC-Global Meeting
- The 9th Mission Idea Contest: To the Moon Preliminary Workshop
- KiboCUBE Academy On-Site Workshop (HEPTA-SAT Training)

- **The Mission Idea Contest**
  - The 9th Mission Idea Contest : to the Moon
    - Theme: Lunar Mission
    - https://www.spacemic.net/
    - Important Dates:
    - Abstract submission due : April 15 2025
    - Notification : May 20, 2025
    - Full Paper submission due : August 5, 2025
    - Final Presentation : October 29 (T.B.C), 2025 at the 11th UNISEC-Global Meeting

- **CLTP14 (CanSat/ CubeSat Leader Training Program)**
  - Date: August 19 – 29, 2025
  - Venue: Nihon University, Chiba, Japan
  - Application Submission Due: April 22, 2025
  - CLTP14 Website: https://cltp.info/cltp14.html

- **Call for proposal for 15th Nano-Satellite Symposium and the 12th UNISEC-Global Meeting 2026**
  - Next 11th UNISEC-Global Meeting will be held in Japan 2025 (Date : T.B.D)
  - Will call for proposal for venue of Nano-Satellite Symposium and UNISEC-Global Meeting in 2026
  - Important Dates
    - Proposal submission due : May 8, 2025
    - Proposal presentation : September 20,2025 (at Virtual UNIGLO meeting)
    - Local Chapter voting : October 2025 (notification T.B.D.)
  - Download the format here: https://unisec-global.org/support.html

- **Launch Opportunity: J-Cube**
  - Special Discounted opportunities
  - 1U, 2U, 3U, deployment from International Space Station
  - Collaborate with UNISEC-Japan's University
  - Technical support will be provided
  - Contact: info-jcube@unisec.jp , http://unisec.jp/serviceen/j-cube

- **Next Virtual Meeting**
  - Date: February 15, 2025
  - Theme: PreMIC9 Finalists Presentation and MIC9 Kickoff
  - Host: UNISEC-Global

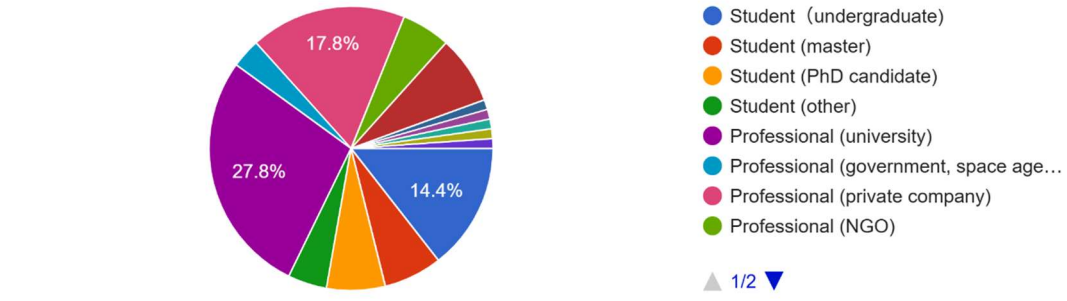
7. Participant Statistics

90 registered participants from **30** countries and regions for the 52st Virtual UNISEC-Global Meeting.

Country	Registrants	Country	Registrants
Argentina	2	Morocco	3
Belarus	1	Nepal	4
Bulgaria	5	Nigeria	1
Burkina Faso	1	Portugal	2
Chile	1	South Africa	3
Colombia	2	Taiwan	4
Dominican Republic	1	Tanzania	5
Egypt	4	Thailand	5
Gambia	1	Tunisia	1
Germany	1	Turkey	7
India	6	Uganda	1
Indonesia	1	UK	5
Israel	1	US	1
Japan	16	Zambia	2
Korea	1	Malaysia	2

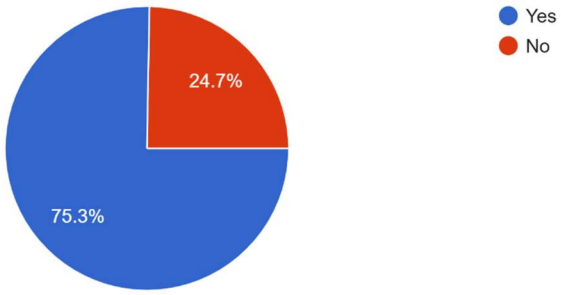
Student or professional?

90 responses



Have you participated in the UNISEC-Global Meeting previously?

89 responses



Thank you